

## EUPHYES DUKESI AND OTHER ILLINOIS HESPERIIDAE

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FOR THE PAST SEVERAL YEARS, Dr. John C. Downey and I have been engaged in a survey of the butterflies of Illinois, which is expected to lead to the publication of an annotated checklist of the butterflies of that state. During the course of this study, numerous interesting records of HesperIIDae have been obtained, some of which I believe justify publication separately and in advance of the larger work, since they represent significant range extensions of the species involved.

*Euphyes dukesi* (Lindsey). Of perhaps the greatest interest and importance has been the fact that this intensely local skipper is apparently established in southern Illinois. Previously published records were summarized by Mather (1963; 1966). Price and Shull (1969) have recently published the first record of *dukesi* from Indiana. A specimen from Blackwater, Prince Albert County, Virginia, VI-13-64, leg. John Bauer, in the Carnegie Museum collection, represents an apparently previously unpublished Virginia record.

A single male of this species is in the collection of the Illinois Natural History Survey, Urbana, Illinois. It was taken at Karnak, Pulaski County, in extreme southern Illinois, on September 2, 1924, by T. H. Frison. In addition to the data label, this specimen bears a label reading "Upper side like / Type - Atrytone / *dukesi* / Lind. / underside / more contrasting / Det / B[arnes]. & B[enjamin]." This appears to have been the first record of the species following its original description, and consequently the earliest record from other than the type locality. Its existence has apparently remained unpublished until the present.

Downey took another male *dukesi* in the Pine Hills region of Union County, in southern Illinois, on September 10, 1966. Mr. H. A. Freeman kindly confirmed my identification of this specimen, which is much darker on the upper side than any other *dukesi* I have seen. It is almost wholly black, with only the faintest traces of fulvous basally on the fore wings and discally on the secondaries.

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I took a rather worn male and a perfect female *dukesi* between 4:15 and 4:45 P.M. on August 31, 1969, in the same area where Downey found the species in 1966. The insects were found in an opening near the edge of a deciduous forest, just south of a road paralleling the south side of the Big Muddy River, about a half mile east of Illinois highway 3. The ground at this point was entirely dry, but there were extensive swamps just east of the area. No additional individuals of the species were seen; they may have been more plentiful within the swamp proper, but the lateness of the hour prevented a search for them there. This appears to have been one of the few reported instances of the capture of *dukesi* on dry ground, and is of particular interest since Mather (1963) indicates that the butterfly seldom strays from its marsh habitat.

Collecting by Downey and his associates in the Pine Hills and Lusk Creek (Pope County) regions of southern Illinois, as well as examination of museum collections, has revealed the presence of other HesperIIDae which had not been expected to occur in Illinois. Among these are three species of *Amblyscirtes* which to my knowledge have not previously been recorded from so far north in the Mississippi Valley.

*Amblyscirtes carolina* Skinner. Two specimens from the Pine Hills, Union County, September 1, 1966, leg. J. C. Downey. The range of this species is given by Klots (1951) as "Georgia to Virginia" and it was unreported from any other area until Mather and Mather (1958) published a Mississippi record. This record from Illinois represents a further range extension. Identification of this and the following species was confirmed by Freeman.

*A. aesculapius* (Fabr.). Specimens from Pine Hills, Union County, August 21, August 25 and September 1, 1966, leg. J. C. Downey, and from Lusk Creek near Eddyville, Pope County, July 7, August 9 and August 30, 1967, leg. J. C. Downey.

*A. linda* H. A. Freeman. I found a specimen which appeared to be *linda* in the series of *A. belli* H. A. Freeman in the collection of the Field Museum of Natural History. It was taken at Makanda, Jackson County, on July 8, 1896, by A. J. Snyder. I sent it to Freeman, who confirmed my identification. Like the two preceding species, this is the northernmost record of *linda* known to me.

*A. belli* H. A. Freeman. This species was itself taken by Downey at the Lusk Creek locality near Eddyville, Pope County, August 9, 1967, 1 ♂ 1 ♀. This species has previously been

recorded from St. Louis County, Missouri (Remington, 1956). These specimens were also determined by Freeman.

*Autochton cellus* (Bdv. & Lec.). This scarce and local species was taken in the Pine Hills region on July 26, August 21 and September 1, 1966 (collector not indicated).

*Hesperia ottoë* Edw. Nielsen (1958; 1960) described the discovery of this species in Michigan, and stated that this represented its first reported occurrence east of the Great Plains. The wide gap between these two areas is partially bridged by the finding of *ottoë* in Illinois. A female of this species was taken by Alex K. Wyatt at Waukegan, Lake County, on July 28, 1946. Thomas Taylor has taken a number of specimens at Mason State Forest, Mason County, on the following dates: July 19, 1963, 1 ♀; July 11, 1964, 1 ♀; and July 19, 1964, 8 ♂ 3 ♀. The first-named specimen was examined by H. A. Freeman, who confirmed its identity. The others agree with it exactly. It may perhaps be significant that the record from Waukegan was six years earlier than the first Michigan record given by Nielsen.

The preceding species discussed have not previously been recorded from Illinois. The two following have been; but additional comment on their occurrence in that state may be worthwhile here.

*Problema byssus* (Edw.). The first record of *byssus* from Illinois was given by Remington (1956) from Elsah, Jersey County. Since then it has been found at five other locations in the state. They are Peoria, Peoria County; Mason State Forest, Mason County; Streator, La Salle County; Valmeyer, Monroe County, and Perryton Township, Mercer County. Complete data of capture will be given in the "Butterflies of Illinois," in preparation. It is interesting and perhaps significant that all these localities lie at no great distance from either the Illinois or Mississippi Rivers.

*Thymelicus lineola* (Ochs.). Since the publication of my paper on this adventive European species in Illinois (Irwin, 1968), only a single additional record of the skipper from outside the Chicago metropolitan area has been reported: Divine, Goose Lake Township, Grundy County, VI-22-68, leg. P. J. Conway. This locality is almost exactly halfway in a direct southwestwardly line between the Chicago area and Streator, La Salle County.

The latter, therefore, remains the point of greatest range extension in Illinois from the Chicago area where it was first observed. This is somewhat surprising in view of its rapid spread heretofore; but it may reflect lack of collecting and reporting rather than absence of the species in a wider area.

Intensive collecting of skippers in Illinois, particularly in the southern portion of the state, may well yield results of equal interest and significance to those presented in this paper. It is unfortunate that so many amateur collectors neglect this fascinating group as difficult, uninteresting, or both!

Specimens on which the records in this paper are based are in the collections of the Illinois Natural History Survey, Southern Illinois University, the Field Museum of Natural History, and the personal collection of Mr. Thomas Taylor, of Peoria, Illinois.

I am grateful to Mr. H. A. Freeman for the determinations which are ascribed to him herein.

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